

CLAIM AMENDMENTS

1. (Currently Amended) A method of supporting voice-band modem-to-modem calls in a wireless communication system, the method comprising:

detecting a call from a first modem to a second modem, ~~the modem call comprising data over a wireless voice channel;~~

~~terminating the modem call;~~

establishing a connection with the first modem in response to the detected modem call;

receiving data from the first modem over the connection;

demodulating the received data ~~in the terminated modem call;~~ and

relaying the demodulated data ~~in the terminated modem call~~ from a near end of a the wireless broadband channel to a far end of the wireless broadband channel.

2-3. (Cancelled)

4. (Currently Amended) The method of claim 1 further comprising:

~~modulating~~ receiving the relayed data at the far end of the wireless broadband channel;

modulating the received data;

establishing a connection ~~between the far end of the wireless broadband channel and with~~ the second modem; and

~~sending~~ transmitting the modulated data to the second modem via the connection.

5. (Currently Amended) The method of claim 4 wherein establishing connection with the first modem comprises answering a modem call from the first modem, ~~the connection~~

~~between the far end of the wireless broadband channel and the~~ and establishing the connection with the second modem ~~is established when the far end of the wireless broadband channel places~~ comprises placing a modem call to the second modem.

6. (Original) The method of claim 1 wherein the wireless broadband channel is not used for voice calls.

7. (Currently Amended) The method of claim 1 wherein the wireless broadband channel is packet switched, and the wireless voice channel is circuit switched.

8-13. (Cancelled)

14. (Currently Amended) The method of claim 1 wherein detecting the modem call from the first modem to the second modem is detected by a tone detector comprises detecting tones.

15. (Currently Amended) The method of claim 1 wherein ~~the near end of the wireless broadband channel comprises~~ one of a subscriber unit or and a base station relays the modulated data and another of the subscriber unit and the base station receives the modulated data.

16-21. (Cancelled)

22. (Currently Amended) A wireless communication system comprising:
~~one or more wireless voice channels, the one or more~~ a wireless voice channels ~~comprising~~ having a near end and a far end;

~~one or more wireless broadband channels, the one or more~~ a wireless broadband channels ~~comprising~~ having the same near end and the same far end as the ~~one or more~~ wireless voice channels;

~~a first modem, the first modem being linked to the near end of the one or more~~ wireless voice and broadband channels; and

~~a second modem, the second modem being linked to the far end of the one or more~~ wireless voice and broadband channels, ~~wherein the wireless communication system is configured to:~~

~~detect a call from the first modem to the second modem, the modem call comprising data;~~

~~terminate the modem call;~~

~~demodulate the~~ a third modem located at the near end of the wireless voice and broadband channels and configured for, in response to a detection of the modem call over the wireless voice channel, establishing a connection with the first modem, receiving data from the first modem over the connection, and demodulating the received data in the terminated modem call; and

a first radio unit located at the near end of the wireless voice and broadband channels and configured for relaying the demodulated data ~~in the terminated modem call from the near end of at least one of the one or more~~ over the wireless broadband channels ~~to the far end of the at least one wireless broadband channel.~~

23. (Currently Amended) The system of claim 22 wherein the wireless communication system ~~is configured to~~ further comprises:

a second radio unit located at the far end of the wireless voice and broadband channels and configured for receiving the relayed data from the wireless broadband channel;

~~modulate a fourth modem located at the far end of the wireless voice and broadband channels and configured for modulating the relayed received relayed data at the far end of the at least one wireless broadband channel, establishing a connection with the second modem, and transmitting the modulated data to the second modem over the connection;~~

~~establish a connection between the far end of the at least one wireless broadband channel and the second modem; and~~

~~send the modulated data to the second modem via the connection.~~

24-25. (Cancelled).

26. (Currently Amended) The system of claim 22 ~~23~~ wherein the wireless voice channel is dedicated to the low-rate modem call a dedicated wireless voice channel.

27-35. (Cancelled)

36. (Currently Amended) The system of claim 22 ~~wherein the call from the first modem to the second modem is detected by~~ further comprising a tone detector configured for detecting the modem call.

37. (Currently Amended) The system of claim 22 ~~wherein the near end of the one or more wireless voice and broadband channels comprises~~ further comprising a subscriber unit or and a base station, one of which includes the third modem and the first radio unit, and another of which includes the fourth modem and the second radio unit.

38-42. (Cancelled)

43. (New) The method of claim 1 further comprising terminating the modem call over the wireless voice channel prior to establishing the connection between the near end of the wireless broadband channel and the first modem.

44. (New) The method of claim 1 wherein the wireless broadband channel is located between the first modem and second modem.

45. (New) The method of claim 1 wherein the wireless voice channel is dedicated to the modem call.

46. (New) The method of claim 1 wherein the connection is established between the near end of the wireless broadband channel and the first modem.

47. (New) The method of claim 1 wherein the modem call is detected at a near end of the wireless voice channel.

48. (New) The method of claim 1 wherein the modem call is detected at a far end of the wireless voice channel.

49. (New) The system of claim 23 wherein the third modem establishes a connection with the first modem by answering a modem call from the first modem, and the fourth modem establishes a connection with the second modem by placing a modem call to the second modem.

50. (New) A method of supporting voice-band modem-to-modem calls in a wireless communication system, the method comprising:

detecting a call from a first modem to a second modem over a wireless voice channel;

determining a data transfer rate of the detected modem call;
comparing the data transfer rate to a bandwidth of the wireless voice channel; and
if the data transfer rate is greater than the bandwidth of the wireless voice channel:
 establishing a connection with the first modem;
 receiving data from the first modem over the connection;
 demodulating the received data; and
 relaying the demodulated data from a near end of a wireless broadband
channel to a far end of the wireless broadband channel.

51. (New) The method of claim 50 further comprising:

 comparing the data transfer rate to a threshold rate that is less than the bandwidth of
the wireless voice channel; and
 if the data transfer rate is between the threshold rate and the bandwidth of the
wireless voice channel:

 establishing a connection with the first modem;
 receiving data from the first modem over the connection;
 demodulating the received data; and
 relaying the demodulated data from a near end of the wireless voice channel
to a far end of the wireless voice channel.

52. (New) The method of claim 51 further comprising maintaining the modem call
over the wireless voice channel if the data transfer rate is equal to or less than the
threshold rate.

53. (New) The method of claim 50 further comprising:

 receiving the relayed data at the far end of the wireless broadband channel;

modulating the received data;
establishing a connection with the second modem; and
transmitting the modulated data to the second modem via the connection.

54. (New) The method of claim 53 wherein establishing connection with the first modem comprises answering a modem call from the first modem, and establishing the connection with the second modem comprises placing a modem call to the second modem.

55. (New) The method of claim 50 wherein the wireless broadband channel is not used for voice calls.

56. (New) The method of claim 50 wherein the wireless broadband channel is packet switched, and the wireless voice channel is circuit switched.

57. (New) The method of claim 50 wherein detecting the modem call comprises detecting tones.

58. (New) The method of claim 50 wherein one of a subscriber unit and a base station relays the modulated data and another of the subscriber unit and the base station receives the modulated data.

59. (New) The method of claim 50 further comprising terminating the modem call over the wireless voice channel prior to establishing the connection between the near end of the wireless broadband channel and the first modem.

60. (New) The method of claim 50 wherein the wireless broadband channel is located between the first modem and second modem.

61. (New) The method of claim 50 wherein the wireless voice channel is dedicated to the modem call.

62. (New) The method of claim 50 wherein the connection is established between the near end of the wireless broadband channel and the first modem.

63. (New) The method of claim 50 wherein the modem call is detected at a near end of the wireless voice channel.

64. (New) The method of claim 50 wherein the modem call is detected at a far end of the wireless voice channel.

65. (New) A wireless communication system comprising:
a wireless voice channel having a near end and a far end;
a wireless broadband channel having the same near end and the same far end as the wireless voice channel;
a first modem linked to the near end of the wireless voice and broadband channel;
a second modem linked to the far end of the wireless voice and broadband channels;

a processor configured for determining a data transfer rate of a modem call from the first modem to the second modem over the wireless voice channel, and comparing the data transfer rate to a wireless voice channel;

a third modem located at the near end of the wireless voice and broadband channels and configured for establishing a connection with the first modem, receiving data from the first modem over the connection, and demodulating the received data if the data transfer rate is greater than the bandwidth of the wireless voice channel; and

a first radio unit located at the near end of the wireless voice and broadband channels and configured for relaying the demodulated data over the wireless broadband channel if the data transfer rate is greater than the bandwidth of the wireless voice channel.

66. (New) The system of claim 65, wherein:

the processor is configured for comparing the data transfer rate to a threshold rate that is less than the bandwidth of the wireless voice channel;

the third modem is configured for establishing a connection between a near end of the wireless voice channel and the first modem, receiving data from the first modem over the connection, and demodulating the received data if the data transfer rate is between the threshold rate and the bandwidth of the wireless voice channel; and

the first radio unit is configured for relaying the demodulated data from the near end of a wireless voice channel to a far end of the wireless voice channel if the data transfer rate is between the threshold rate and the bandwidth of the wireless voice channel.

67. (New) The system of claim 66 further comprising a vocoder for maintaining the modem call over the wireless voice channel if the data transfer rate is equal to or less than the threshold rate.

68. (New) The system of claim 67 wherein the wireless communication system further comprises:

a second radio unit located at the far end of the wireless voice and broadband channels and configured for receiving the relayed data from the wireless broadband channel;

a fourth modem located at the far end of the wireless voice and broadband channels and configured for modulating the received relayed data, establishing a connection with the

second modem, and transmitting the modulated data to the second modem over the connection.

69. (New) The system of claim 65 wherein the wireless voice channel is a dedicated wireless voice channel.

70. (New) The system of claim 65 further comprising a tone detector configured for detecting the modem call.

71. (New) The system of claim 65 further comprising a subscriber unit and a base station, one of which includes the third modem and the first radio unit, and another of which includes the fourth modem and the second radio unit.

72. (New) The system of claim 66 wherein the third modem establishes a connection with the first modem by answering a modem call from the first modem, and the fourth modem establishes a connection with the second modem by placing a modem call to the second modem.